



Colorado Department
of Public Health
and Environment

COLORADO DISCHARGE PERMIT SYSTEM

RATIONALE FOR CERTIFICATION

JOHNSON DAIRY, LLC

CAFO PERMIT NUMBER COA932000

CERTIFICATION NUMBER COA932039

I. TYPE OF PERMIT Colorado Concentrated Animal Feeding Operations General Permit

II. FACILITY INFORMATION

A. Facility Type: Concentrated Animal Feeding Operation - Dairy Operation
Annual Fee: \$750 + (\$0.09 x 10,653 animal units)
Permitted Capacity: 10,653 Animal Units
Total Annual Fee: \$1708.77

B. Legal Contact: John D. Johnson
Johnson Dairy, LLC
300 E. 16th Street, #301
Greeley, CO 80631
(970) 454-1445
Cell: (970) 381-0715

C. Facility Contact: John D. Johnson
300 E. 16th Street, #301
Greeley, CO 80631
(970) 454-1445
Cell: (970) 381-0715
Email: rodney04@msn.com

D. Facility Location: 23016 Weld County Road 74
Eaton, CO 80615
Weld County

III. FACILITY DESCRIPTION

Johnson Dairy, LLC (the facility) is a dairy operation with a confinement capacity of 7,240 mature dairy cows, 300 dairy heifers, and 700 unweaned calves. The facility includes six single-stage ponds (ponds 1, 2, 3, 4, 5, and 7) and four solids separating basins for wastewater treatment and containment. Wastewater runoff from the production area flows via sheet flow directly into the wastewater ponds. The facility has three milking parlors housed in two buildings. Wastewater generated in the south milking parlors flows to a concrete weepy wall separator and then east via underground PVC pipes to settling basin #3. Wastewater generated in the north milking parlor is conveyed via underground PVC pipes to a concrete reception pit and static screen separator. Wastewater is then piped from the reception pit to settling basins #1 and #2. The facility's impoundments were constructed north to south as the facility grew, with the northern most Pond #1, being the highest in elevation.

Wastewater is pumped from pond to pond as needed to maintain storage volume or for land application. The dividing berms between Ponds #1 - #5 do not extend all the way across the impoundments and therefore allows wastewater to flow from pond to pond. Pond #5 overflows to Pond #7 via a constructed channel that crosses over a clean water drainage ditch.

A spillway exists in the northeast corner of Pond #7 for directing overflow and serves as the discharge monitoring point for the facility. In the event of an overflow, wastewater would enter the clean water drainage ditch and flow east approximately 400 feet to an unnamed drainage. The unnamed drainage flows south for approximately two and half miles to Lone Tree Creek which then flows south for approximately four miles to the South Platte River. Pond #6 is an irrigation mixing pond that does not receive direct runoff of wastewater; therefore a spillway exemption has been approved.

Clean water diversion structures to the west of the facility, namely the borrow ditch of Weld County Road 47, divert storm water from a 25-year, 24-hour storm event. County culverts in the borrow ditch are insufficiently sized to carry all the stormwater run-off from 297 acres of farm fields located to the west of the facility. This may result in stormwater collecting in the borrow ditch and eventually overtopping portions of Weld County Road 47. The facility provided the Environmental Agriculture Program (Ag Program) with in-depth engineering evaluations of the hydrology, ditch capacities, and culvert capacities that establish the amount of stormwater that will be diverted away from the production area during storm events and the amount of stormwater that will be captured in the production area by the impoundments that have been designed to accommodate potential additional stormwater run-on. Based on the engineering documentation provided, the diversions are adequate when used in conjunction with the calculated design storm runoff volumes of the impoundments and the Ag Program has determined that there is not an increased risk to water quality.

Manure is stored in the confinement pens, stockpiled, or composted until released to third parties. The facility owns or controls two land application sites, totaling 180 spreadable acres, for the application of wastewater. Details regarding the location of the land application sites are summarized in Part VI below.

The volume of process wastewater and runoff generated at the facility as a result of the 25-year, 24-hour storm is greater than that from the chronic storm. The impoundment storage volume and drainage basin runoff volume for the 25-year, 24-hour storm are shown below:

Impoundment Name:	Pond #1	Pond #2	Pond #3	Pond #4	Pond #5	Pond #7
Volume at 2 feet of freeboard (acre-feet)	3.9	9.4	6.7	10.5	13.0	39.2
Volume of runoff from drainage basin (acre-feet)	67.5					

IV. CERTIFICATION REQUIREMENTS

- A. The facility is not a “Housed Commercial Swine Feeding Operation” as that term is defined at 25-8-501.1(2)(b), C.R.S., and is not a duck CAFO.
- B. The facility is not a CAFO for which a Total Maximum Daily Load (TMDL) has been established for the facility.
- C. A discharge from the facility would not be to surface water for which there is an applicable control regulation that limits the quantity or concentration of total phosphorus or total nitrogen in discharges.
- D. The facility has not requested alternative CAFO effluent limitations and has not proposed the use of site-specific alternative technologies per section 61.17 (7) of Regulation No. 61.

- E. The facility has submitted a complete Application to Be Certified Under a General Permit for Concentrated Animal Feeding Operations and Nutrient Management Plan (NMP).
- F. The facility's rain gauge is capable of accurately measuring precipitation to a detection limit of 0.1 inch. An acceptable Standard Operating Procedure for measuring precipitation was provided as part of the permit application.
- G. All impoundments were designed by a professional engineer and have been designed and constructed in accordance with the standards of the Natural Resources Conservation Service, Field Office Technical Guide, Section IV, or equivalent.
- H. All impoundments have properly designed and constructed spillways designed to prevent erosion of the structural integrity of the impoundment.
- I. Depth markers have been installed in all open surface impoundments and terminal tanks, in accordance with Part IV.B.3., of the general permit.
- J. Two feet of freeboard, or other freeboard level approved by the Program, exists in each open surface impoundment and terminal tank, in accordance with 61.17(5)(c)(ix)(E).
- K. Clean water is diverted, as appropriate, from production areas, manure stockpiles, and composting areas, in accordance with 61.17(5)(c)(ix)(F).
- L. Structures used to divert process wastewater from the production area are sized, in accordance with 61.17(5)(c)(ix)(G).

V. CONFORMANCE WITH CERTIFICATION REQUIREMENTS

Based on the information presented in Section IV above, the facility meets the requirements for certification under the permit as required in Attachment A of the permit.

VI. NUTRIENT MANAGEMENT PLAN

A Nutrient Management Plan (NMP) that satisfies the requirements of Part III of the permit was submitted with the application for permit coverage. The best management practices and procedures detailed in the NMP, as required to satisfy Part III (A)(1) through (9) of the permit, are incorporated into this certification by reference. The terms of the NMP listed in Part III (B)(1) of the permit are also incorporated into this certification by reference. The terms of the NMP are available through public notice for review and comment. The NMP must be kept on-site as long as the operation is certified under the permit.

A summary of location information related to the land application site(s) is provided in the table below:

<u>Land Application Site Name</u>	<u>Spreadable Acreage</u>	<u>County</u>	<u>GPS Location</u>	
			<u>Latitude</u>	<u>Longitude</u>
Field #1	110	Weld	40.5212	-104.6052
Field #3	70	Weld	40.5131	-104.6238

VII. RECORDKEEPING REQUIREMENTS

Recordkeeping requirements are presented in Part V of the permit.

VIII. MONITORING REQUIREMENTS

- A. Monitoring requirements for discharges are presented in Part VI of the permit.
- B. Soil sampling requirements are detailed in the facility's Nutrient Management Plan (NMP) in accordance with Part III. A. 7) and Part III B. 4)(a) of the permit. As prescribed in the NMP, the facility is responsible for soil sampling at depths outlined in the Colorado State University Cooperative Extension Best Management Practices for Manure Utilization-Bulletin 568A. The bulletin identifies the following for sampling depths as appropriate:
 - 1 foot or less, to evaluate crop phosphorus, potassium, and other nutrient needs;
 - 4 to 6 feet, from the deeper root zone after crop harvest and/or prior to any manure or effluent application to evaluate soil nitrate (NO₃);
 - Soil sampling below the active root zone may be needed occasionally to document that nutrients are not leaving the root zone.

IX. REPORTING REQUIREMENTS

Reporting requirements are presented in Part VII of the permit.

- A. Signatory Requirements: Signatory requirements for reports and submittals are presented in Part VII (B) of the permit.
- B. Annual Reports: The facility must submit an annual report to the Environmental Agriculture Program by March 31st of each year. The annual report must include the information detailed in Part VII (C) of the permit.
- C. Special Notifications: Special notifications are required in the event of a spill, bypass, or other noncompliance. Notification requirements are presented in Part VII (D) of the permit.

X. NMP CHANGES, PERMIT REOPENER, PERMIT RENEWAL, AND FEE INFORMATION

- A. Changes to the NMP: For substantial changes to the terms of the NMP listed in Part III (B)(1) of the permit, the NMP and the facility's certification under the permit will be changed as presented in Part III (C) of the permit.
- B. Reopener: The permit may be modified, suspended, or revoked in whole or in part during its term for any reason outlined in Part VIII (F) of the permit.
- C. Renewal: Requirements for permit renewal are discussed in Part I (H) of the permit.
- D. Fee Information: Permit fee requirements are presented in Part VIII (H) of the permit. An annual fee must be paid to the Colorado Department of Public Health and Environment to maintain coverage under the permit.

XI. REFERENCES

- A. Natural Resources Conservation Service, *Field Office Technical Guide*, Section IV.
- B. *Colorado Water Quality Control Commission, Regulation No. 61, Colorado Discharge Permit System Regulations (5 CCR 1002-61)*. Denver: Colorado Department of Public Health and Environment as amended December 12, 2011 and effective January 30, 2012.

- C. Colorado State University Cooperative Extension *Best Management Practices for Manure Utilization-Bulletin* 568A, September 1999.

Chad DeVolin
Environmental Agriculture Program
Colorado Department of Public Health and Environment
February 7, 2013

XII. PUBLIC NOTICE COMMENTS